

Robinson system. Thus, in one sense, OPERRA could be viewed as complementary to the Robinson system.

The Robinson patent and the combination of this patent and the Markese mutual fund ranking methodology deal with determining the optimal portfolio of stocks to meet the investor's objective of highest return, given user-selected constraints / limitations and risk tolerance. The rating given a stock by the OPERRA does not deal with the objectives, constraints or risk tolerance of the user (investor).

With the Robinson system of producing the maximum portfolio of securities (both the best stocks and the optimal weighting of each), candidate stocks are defined via the various characteristics most important to the user (investor). Such characteristics may be ratios and financial measures such debt-to capital provided by a data source such as Value Line. And the stocks are subjected to linear programming by Robinson to arrive at the user's maximum portfolio. OPERRA does not use any ratios or financial metrics from an outside source; all OPERRA ratios and metrics are internally generated. The Markese article covers the various ranking techniques for mutual funds and shows their benefits and pitfalls. OPERRA does not produce or rank portfolios.

OPERRA evaluates individual stocks and gives each an overall score (or more precise a set of overall as of each time period of a multi-period time interval, such as 12 quarters covering the latest three years). OPERRA does not attempt to produce an optimal portfolio either respect to the stocks selected or any weightings. With OPERRA, the user does not identify desired aspects of his portfolio; rather each holding or security is scored individually without user preferences. This OPERRA scoring is not based on its potential contribution in optimizing a portfolio given characteristics sought by a user.

In a deriving a score for holding or security, OPERRA uses the term "portfolio" in claim 2 (in the case of scoring holdings) and the term "background portfolio" in claim 22 (in the case of a security which may not be a holding). As used in the Schwarz-Pines application, these two terms do not refer to a portfolio produced by they OPEPRA process; rather "portfolio" and "background portfolio" are a pre-selected group of stocks used, collectively, as the standard against which a holding of security is measured and ranked in derive its (overall) score. The past financial performance and strength holding or security is compared that of each stock in the portfolio.

For example, the OPERRA portfolio may be firms in the S&P 500 (without respect to weightings) and used as a standard to rank / score individual holdings or securities independent of the user's portfolio objective(s) i.e. the background portfolio is not the optimal portfolio produced by the OPERRA system.

#### **B - Improper Shading on Drawings**

As covered in an earlier conversation, Rich Schwarz and Brad Pines request production new drawings to eliminate improper shading be made at a future data.

This request is made in light of consideration that a) such eliminations are not needed to understand either the aspects of the claims to which the Patent Examiner has raised objections or rejections or the Schwarz / Pines responses in addressing those objections or rejections and b) the immediate and substantial time and cost that would be involved to eliminate shaded areas on the designated drawings.

**C – Response to Items 7 in Detailed Action re claims 6, 11 and 38, “time domain aspect” and “financial attribute aspect”**

Item 7. Claims 6 (method of claim 1), 11 (method of claim 8), and 31 (method of claim 28), as “time domain aspect” and “financial attribute aspect” not defined

See Schwarz-Pines application section “Filters”, p.27 through 29.

Each of the OPERRA filter ratios has a time-domain aspect and an attribute aspect. Each filter ratio is grouped into one of three different time-domains, “Level” (filter ratios evaluate a ratio that exists a particular slice of time) “Flow” (filter ratios evaluate a cumulative change that has occurred during an interval of time) and “Change” (filter ratios evaluate how much the value of a Level-type filter ratio has changed at later period of time in relationship to an earlier period of time). Each Filter also has a financial attribute aspect which is derives from the nature of the particular line items and the dollar amount of those line items from firm's financial statements for a given reporting period.

**D – Responses to Item 8 in Detailed Action re claim 7, “intervals”**

Item 8. Claim 7 (method of claim 1), as “first interval” and “second interval” not defined in specification.

To claim 7 add “wherein some of the evaluation metrics evaluate a change in the value of an evaluation metric from the first time period time of a multi period interval to the last time period of that interval.”

**E – Response to Items 10 in Detailed Action re claims 1 and 22, distinctly claiming Subject matter**

Item 10. Claims 1 and 22 rejected under second paragraph USC 112

Revision to claim:

A method of evaluating holdings of a portfolio by identifying a set of evaluation metrics used in evaluating each holding wherein the evaluation metrics are filter ratios (typically with both the numerator and denominator metrics in a dollar amounts) that each filter ratio has value; determining for each holding the value of at least some of the filter ratios so as to rank or position within the portfolio for each filter ratio wherein each ranking or position is based upon the holdings' values determined for each filter ratio; assigning a filter ratio positional score based on stack rank or proportional penetration of the values range across all holdings; generating an overall score for each holding of the portfolio based filter ratio positional scores that are assigned to that holding and calculating, for a each holding, an overall score for each period of the time interval (for example, for each 12 quarter a multi quarter or three year time interval). so that the relative strength of that holding is shown over time such that the trends and / or inflection points.

Revision to claim 22:

A method of evaluating a security against holdings of a background portfolio by generating an overall score in a “one-off” basis for a single security which may or may not on the background portfolio wherein the overall score (and scores by time period so that the relative strength of that security is shown over time such the trends and / or

inflection point are shown) is based upon its evaluation metric positional scores on a stack rank or proportional penetration basis to show its strength relative to holdings in the background portfolio which functions primarily as a standard against which the security is measured in computing the overall score of that security and the background portfolio typically comprised firms in an index such as firms comprising the S&P 500); use of "slotting" process to reduce computation time especially in the case of a non-holding security a slotting as its positional scoring can be determined without the requirement to expand the background portfolio to include the non-holding security which is being evaluated.

**G – Response to Items 11 through 16 in Detailed Action re. "the values"**

Item 11. Claim 1 recites limitation "the values" (for each hold of the holdings) in line 5, insufficient antecedent basis

Item 12. Claims 1 limitation "the values" (of at least some of the evaluation metrics) in line 9, insufficient antecedent basis

Item 13. Claim 22 recites limitation "the values" in line 7 (determining values of financial metrics for each of the background), insufficient antecedent basis

Item 14. Claim 22 recites limitation of "the value" limitation in line 12 (determining for each of the background portfolio holdings the value of at least). Insufficient antecedent basis

Item 15. Claim 22 recites limitation "the values" in line 24 (determining the values of financial metrics for the holding to be evaluated against the background portfolio holdings) insufficient antecedent basis

Item 16. Claim 22 recites limitation "the values" in line 26 (determining for the holding to be evaluated the values of at least some of evaluation metrics), insufficient antecedent basis

As covered in section Filters on p. 27 of the Schwarz-Pines application, the term "value" refers the value of a given filter ratio (OPERRA Filter) for which the numerator metric is typically the dollar amount of a financial line item (taken from a firm's financial statements) of particular interest and the denominator metric is typically a dollar amount of a financial line item (also taken from a firm's financial statements) with the latter serving as weighting factor to reduce biasing the final ratio due to the size of the firm/

For example, one OPERRA filter ratio consists of Net Cash divided by LTD (long term debt so that this filter reflects the dollar amount of Net Cash is relative the dollar amount LTD so that large firms are not artificially rewarded receive higher filter ratio value) simply because of their size.

**G – Response to Items 19 in Detailed Action re Claim 1, Generating Overall Score**

Robinson under "A Procedure Used to Establish Objective Function" (c 7 / line 10), are sub sections "1. Standardization of Units (at 8 208-1)" and "2. Degree of Importance of Factors" which is an entirely different approach OPERRA. Using linear programming

Robinson ranks holdings based on a particular metric such as earnings per share to suggest changes in an existing portfolio. For a given holding, OPERRA calculates overall scores for each period of the time interval as well as the values of a particular Filter so that changes over time highlight inflection points at which time the holding witnessed a major change (for better or for worse) in financial strength. Robinson does not calculate or show times series values and related inflection points for any holding.

OPERRA gives overall score for given holding or security by summing and effectively averaging the strength of all filters based on the positional score of each filter as derived from the value of a filter relative values of that filter for holdings comprising the portfolio.

The strength of an OPERRA Filter for a given holding or security is measured by the value that firm's filter with respect to its a) stack rank relative to the value compared to the values for that filter for other firms in the portfolio) or b) the proportional penetration of holding or security with a range of values bounded by the most extreme two values of all firms in the background portfolio; see Schwarz-Pines application p. 41, lines 17 to 33 and p. 42 lines 1 to 3 of Application

OPERRA does ask the user to select features, input constraints or set minimum levels as OPERRA not designed to maximize a portfolio valuation.

#### **H – Response to Items 20 and 22 in Detailed Action re Claim 2 and 4, Positional Scoring**

Item 20, Re claim 2 Robinson teaches method in claim 2 (a method of claim 1). Robinson teaches generating overall score via average of positional scores (Rob c7 / 29 - 45) under "A Procedure Used to Establish Objective Function" and the last paragraph Of its sub section "1. Standardization of Units (at 8 208-1)" -- wherein any dollar figure is divided by current stock price, compute arithmetic mean for each of the (four) variables for all candidate stocks and then standardize using one of the factors

OPERRA gives overall score (actually overall scores over time) for given Holding, OPERRA does not rank or score a portfolio or attempt to produce a maximum portfolio. OPERRA does this with so without relying on any externally gathered ratios, rating indices, past or projected growth rates

Using linear programming Robinson ranks holdings based on a particular metric such as earnings per share to suggest changes in an existing portfolio. For a given holding or security, OPERRA calculates an overall scores for each period of the time interval to highlight trends and the timing of inflection points.. Robinson does not calculate or show times series values and related inflection points for any holding

OPERRA gives overall score for given holding or security by summing and effectively averaging positional scores of its filters; the score for each filter for a given holding or security based on the strength of each filter (ratio) value relative to the values of that filter for all holdings comprising the background portfolio.

For a given holding or security, OPERRA measures the strength of each it's filters by the filter's stack rank (Schwarz-Pines application p. 41, lines 17 through 25) or by its proportional (percentage) penetration of the range of values for particular filter across all

firms in the portfolio (Schwarz-Pines application p. 41, lines 26 through 39). Proportional penetration does not use the ranking of filter values

The OPERRA proportional penetration formula is "(Holding's A's Filter value – Lowest Filter value in portfolio) divided by (Highest Filter value in portfolio – Lowest Filter value in portfolio)" assuming a higher filter value indicates higher finance strength. See Schwarz-Pines application p. 41 6 line through p. 42 lines line 3.

Item 22. Re claim 4, Robinson teaches method in claim 1, Rob teaches ranking by overall scores (Rob c9 / 40 – 67 and c10 / 1 – 12) and generating overall positional score based on holding's overall score ranking (Rob c10 / 1 – 12) bases on overall positional scoring.

OPERRA ranking / scoring is based on stack ranking or proportional penetration. See Schwarz-Pines application p. 41, lines 17 to 25, page. 41, line 26 through and p. 42 lines 3.

Item 23. Re claim 5, Robinson teaches method in claim 4 .Rob teaches overall positional score threshold and identifying each holding below threshold (Rob c6 / 29 – 41)

The Robinson system automatically allows user to demand any specific features to produce a portfolio which maximizes the valuation subject to "constraints" using linear programming to maximize the objective function.

OPERRA is not designed to select firms for a portfolio or to produce a portfolio of maximum valuation or to deal with any constraints. Rather, the OPERRA method performance measures/ ranks / scores a holding or security over time against a user-selected portfolio of firms, such as those comprising the S&P500 index, which serves as the standard against which the target holding or security measured over time. That produces an overall score for that holding or security by effectively averaging either stack rank or positional penetration scores for all viable filters for that holding or security wherein the score for each viable filter initially derives from derives from filter (ratio) values.

**I – Response to Items 33 and 34 in Detailed Action re Claim 15 and 16.**  
**Cumulative Economic Profit**

Item 33. Re claim 15 (one financial metric indicative of cumulative economic profit over given period of time). Robinson teaches method in claim 1 and one financial metric which is indicative of holding's cumulative economic profit over given time period (c3 / 45 – 67 and c4 / 1 - 5)

Item 34. Re claim 16 (cumulative economic profit accounts for special charge); Robinson teaches method in claim 15 and also teaches that holding's cumulative economic profit financial metric accounts for special charges taken during given time period (c3 / 45 – 67 and c4 / 1 -5)

Within the Financial Metrics section of the Schwarz-Pines application, starting at the bottom p.16. is a description of "The OPERRA Economic Profit (Cumulative ECOP) Metric:" which continues into p. 20. Cumulative ECOP is primarily derived from a) changes the dollar values of specific Balance Sheet accounts over a selected time

interval and b) the addition of cumulative Dividends paid or declared over that interval. Despite the fact that Cumulative ECOP is not derived from P&L figures, this OPERRA metric reflects so called special, non-recurring and other non-operating charges that reduce Retained Earnings. And relative to the traditional approach of reducing reported net income to account for special charge and the like, Cumulative ECOP Income more thoroughly reflects events with a negative economic impact and minimizes the timing effects of P&L recognition.

In contrast to conventional methods of determining economic profit, the OPERRA Cumulative ECOP metric was explicitly designed not to rely on any P&L figures (as these figures most subject manipulation by public firms attempting to manage reported earnings). Thus, the OPERRA Cumulative ECOP metric does not take the reported Net Income figure for a given period and reduce it the amount by the after-tax effect various special and non-recurring charges (shown in the P&L for that period) to derive Cumulative ECOP.

At no place within lines c3 / 45 – 67 and c4/ 1 -5 in the Robinson patent (or anywhere else in that patent) is cumulative economic profit defined. Rather the Robinson patent rather simply lists (c3 / line 45 through c4 / line 5) a number common P&L, Fund Flow, Balance Sheet related ratios and line items and a very general descriptor "capital and equity structure":

**J – Response to Items 35 and 36 in Detailed Action re Claim 17 and 19,  
Elements Shareholder Equity**

**Item 35.** Re claim 17 (the financial metrics include a series of metrics that aggregate to equal holding's total shareholder equity at given period of time), Robinson teaches method in claim 15 and financial metrics that include a series of metrics that aggregate to equal a holding's total shareholder equity at given point in time ((c3 / 45 – 67 and c4 / 1 -5)

**Item 36** Re claim 19 (financial metrics dissect total shareholder equity at a point in time into organic shareholder equity and unearned shareholder equity metrics). Robinson teaches method in claim 1 wherein financial metrics include plurality of metrics that dissect holding's total shareholder equity at given point in time into organic equity and unearned shareholder equity financial metric (c3 / 45 – 67 and c4/ 1 -5)

With respect to shareholder equity, nowhere does the Robinson define or differentiate between organic and un-earned equity portions of total equity as does the Schwarz-Pines application, p.11, lines 7 through 15.

**Item 37** Re claim 20, Robinson teaches method in claim 19 wherein organic shareholder equity reflects all business activities less cumulative dividends declared over holding's life net capital from sale or redemption of stock (c3 / 45 – 67 and c4 / 1 -5)

The Schwarz / Pines application, p. 10, lines 4 through 9, defines organic shareholder equity as "The portion of TSE generated from ECOP less Dividends paid by the firm over the life of the firm. The OSE portion of TSE reflects all of the business activities of the enterprise less cum. Dividends declared over the enterprise's life less net capital raised from sale/redemption of stock"

The paragraph p. 18 line 5 through 14 in the Schwarz-Pines application read "Before OPERRA can use the preferred approach to determining Cum. ECOP, it must first analyze a Firm's Shareholder Equity (labeled as Total Shareholder Equity or "TSE"). TSE is comprised of two basic components: "Unearned Shareholders Equity" ("USE") and "Organic Shareholders Equity" ("OSE"). The USE portion of TSE represents the cum. Net capital raised from sale and repurchase of common shares over the enterprise's life (which is cumulatively reported). The OSE portion of TSE reflects all of the business activities of the enterprise less cum. Dividend declared over the enterprise's life. As discussed below, there are several approaches to calculating Cum. ECOP. In the preferred approach, OPERRA derives Cum. ECOP as the change in the dollar level of Organic Shareholder Equity

At no place within lines c3 / 45 – 67 and c4 / 1 -5 in the Robison patent (or anywhere else in that patent) does Robinson define cumulative economic profit. Rather the Robinson patent rather simply lists (c3 / line 45 through c4 / line 5) a number common P&L, Fund Flow, Balance Sheet related ratios and line items and a very general descriptor "capital and equity structure":

**K – Response to Items 37 and 36 in Detailed Action re Claim 21, Amount of Cash**

Item 38 Re claim 21, Robinson teaches method in claim 1 wherein one financial metric for determining amount of cash that holding would have had at end of interval assuming no change in total debt and no net cash from sale or redemption of stock (c3 / 45 – 67 and c4 / 1 - 5)

The OPERRA definition for organic cash is given on p. 10 lines 1 - 2 of the application as "At the end of a time period, the level of Cash and Equivalents less all Debt and less Unearned Shareholders Equity" with the advantage, as stated p. 27 lines 10 through 16 in the application that this cash metric avoids relying on the validity reported earnings on which Cash Flow statement rests.

At no place within lines c3 / 45 – 67 and c4 / 1 -5 (or anywhere else in the Robison patent) does Robinson describe organic cash; rather the Robinson patent simply lists (c3 / line 45 through c4 / line 5) a number common P&L, Fund Flow, Balance Sheet related ratios and line items and a very general descriptor "capital and equity structure":

Respectively, Rich Schwarz